

## CLAIMS

What is Claimed is:

- 5           1.       A vehicle occupant detection system comprising:  
            a sensor array comprising a plurality of sensors arranged in a vehicle seat;  
            a calibration unit configured to calibrate the sensors to normalize sensor sensitivities  
            across the sensor array;  
            a weight estimation module configured to estimate a weight of a seat occupant based  
10   on deflections of the sensors created by the seat occupant;  
            a pattern module configured to analyze deflection patterns of the sensors; and  
            a decision-making module configured to make a deployment state decision for an  
            airbag based on data from one or more of the other modules.